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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,477	03/28/2001	Michael A. Zawadzki	4800-091	3725

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EXAMINER	
WALLS, DIONNE A	
ART UNIT	**PAPER NUMBER**
1731	

DATE MAILED: 12/10/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/819,477	ZAWADZKI ET AL.	
	Examiner	Art Unit	
	Dionne A. Walls	1731	

-- The MAILING DATE of this c mmunicati n appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 September 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-151* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6,17-52,54-56,67-148 and 151* is/are rejected.

7)☒ Claim(s) *3, 7-16,53,57-66,149 and 150* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17-100 and 132-146 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claim 17 specifically recites the cellulose in DMAC/lithium chloride, and then recites "said permeability reducing substance applied using a composition comprising...." in *general* terms. Further, dependent claims are also included which attempt to limit the general terms, but, in the independent claim, cellulose in lithium chloride/DMAC are the specific compounds already recited. The metes and bounds of patent protection cannot be ascertained since the claims recite both specific terms and general terms in the same claim and include dependent claims to further define the general terms.

Independent claim 132, requires cellulose applied using lithium chloride in DMAC; however, dependent claims attempt to broaden the requirement by reciting that the ingredient is a lithium containing compound, of that the organic component is either DMAC or NMP. Again, the metes and bounds of patent protection cannot be ascertained since the depending claims recite specific terms, and the dependent claims attempt to broaden those specific terms.

Clarification is requested.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2, 4-6,17-30, 33-34, 41-52, 54-56, 67-79, 82-83, 90-110, 113-114, 121-143, 147-148, and 151 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al (US. Pat. No. 5,878,753) in view of Turbak et al (US. Pat. No. 4,302,252).

Peterson et al discloses a smoking article and method of making same wherein said smoking article 10, having improved ignition proclivity, comprises a tobacco column 12 within a wrapper 14. Article 10 may also include a filter 26. Paper web 14 defines an outer circumferential surface 16 wherein discrete areas 18 are treated with a film-forming solution that includes a solvent-soluble cellulosic/natural polymer dissolved in a non-aqueous solvent. The discrete areas form reduced permeability designed to improve the ignition proclivity characteristics of the smoking article, said discrete areas may be defined as a plurality of cross-directional bands 24 surrounding the smoking article. The cigarette is designed to self-extinguish once the burning coal of the smoking article advances into the treated area. Preferably, said cross-sectional bands should have a width of about 4mm, and a spacing between said bands of between 5-10 mm. The film-forming solution may also contain particulate inorganic filler, such as chalk, clay and titanium oxide. The treated areas 18 have a smooth and flat texture, essentially the same as the untreated areas 28, such that a smoker cannot discern from

any outward sign that the wrapper had been treated in discrete areas (see entire patent). While Peterson et al may not specifically disclose that its permeability substance is dissolved in a *non-derivatizing* solvent comprising a solvent and at least one ingredient that is a self-association disruptor for the permeability reducing substance, Peterson et al does teach that all natural polymers/cellulosic polymers, such as microcrystalline cellulose, which are soluble in non-aqueous solutions form suitable permeability reducers for its cigarette wrappers. It is well-known that cellulose is a natural/cellulosic polymer. Further, Turbak et al discloses a solvent system for cellulose wherein cellulose is dissolved in either a dimethylacetamide (DMAC) or pyrrolidinone solvent with lithium chloride added thereto. The cellulose is subjected to such solvent mixture such that no degradation occurs (corresponding to the claimed "non-derivatizing solvent") (see abstract). It would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the cellulose solvent system of Turbak et al as the film-forming substance to be applied to the cigarette wrapper of Peterson et al since Turbak discloses a natural polymer/non-aqueous solvent system which is suitable for use as a coating (col. 1, lines 48-49). While Peterson et al modified by Turbak et al may not disclose the amount that the permeability reducing substance is applied to the cigarette wrapper, it would have been obvious to one having ordinary skill in the art at the time of the invention to arrive at the claimed amount, after routine experimentation, in an effort to optimize the treated areas in order to achieve improved ignition proclivity for the wrapper without adversely affecting the smoking characteristics. "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover

the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454,456, 105 USPQ 233,235 (CCPA)

While Peterson et al modified by Turbak et al may not disclose a population of a plurality of smoking articles, this limitation is not deemed to impart any patentable distinction to the claims since cigarettes are conventionally packaged in a cigarette pack – which can be considered a population of a plurality/twenty/grab sample of cigarettes.

Since Peterson et al modified by Turbak et al discloses that reduced ignition proclivity occurs when its product is smoked, it would follow that the ignition propensity of said product would be altered at least in the amount of between 50 –100% since, based on the figure, about half of the cigarette wrapper could be treated with the permeability reducing substance.

While Peterson et al modified by Turbak et al may not explicitly state that the banded regions of each smoking article have a width/center-to-center spacing ratio of at least about 1/10 to greater than about 1/1, Peterson et al dos disclose that the spacing of the bands are dependent on a number of variables. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to orient the bands in 1/1 – 1/10 ratio fashion based on the initial permeability of the wrapper, density of the tobacco column as taught in Peterson et al (col. 5, lines 63-65).

While there may be no specific articulation that the wrapper has properties that enable a bobbin of wrapper to be useable in a conventionally available cigarette manufacturing machine, it would have been obvious to one having ordinary skill in the art at the time of the invention to ensure that the wrapper of Peterson et al and Turbak

et al would be useable on such a machine in order to avoid the cost of having to customize the machine for the wrapper's use.

While Peterson et al and Turbak et al may not disclose that its wrapper also includes a burn rate accelerating substance, Peterson et al discloses in its "Background of the Invention" section that in cigarette wrappers having bands of porosity reducing substance, it is known to include a burn promoter in the wrapper. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate a burn-rate accelerator in the Peterson et al/Turbak et al wrapper to balance the effect of the discontinuous coating areas (see col. 2, lines 13-15.)

3. Claims 31-32, 35-40, 80-81, 84-89, 11-112, and 115-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al (US. Pat. No. 5,878,753) in view of Turbak et al (US. Pat. No. 4,302,252) as applied to the above claims, and further in view of Timpa ("Characterization by Size-Exclusion Chromatography with Refractive Index and Viscometry") and Hotaling (US. Pat. No. 5,820,998).

While Peterson et al modified by Turbak et al may not disclose that the polysaccharide used as its permeability reducing substance is starch, chitosan, chitin or alginate and that each of these are non-derivatized, Timpa discloses that natural polymers such as cellulose, starch and chitin, with no degradation, were dissolved in dimethylacetamide-lithium chloride. Also, Hotaling discloses that it is well-known to coat water-soluble, film-forming material such as starches, alginate, etc to reduce permeability of paper (col. 1, lines 19-24). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize any of these

polysaccharides as permeability reducing substances to be applied to the wrapper of Peterson et al /Turbak et al since it's known to utilize natural polymers in DMAC-LiCL solution, as taught by Timpa, and many natural polymers have been used as permeability reducing substances for papers, as taught by Hotaling et al. While there may be no specific articulation of the use of chitosan as a polymer for this purpose, since chitosan is derived from chitin, it would follow that this would also be a suitable material to be used as a permeability reducer.

Response to Arguments

4. Applicant's arguments filed on 9-16-2002 have been fully considered but the arguments that relate to claims 1-2, 4-6, 17-52, 54-56, 67-148 and 151 are not persuasive.

- Applicant argues that Peterson discloses an "unlimiting" statement when it states that "natural polymers soluble in non-aqueous solutions are also effective" for use in the disclosed invention, and that such a statement is not the type that provides the motivation required to support n obviousness rejection in 25 USC 103. However, the Examiner disagrees. The Examiner believes that the statement that "natural polymers soluble in non-aqueous solutions are also effective" is very much a suggestion that the use of other natural polymers in other solvent systems is fully envisioned in the production of the cigarette wrapper of Peterson et al, since they, too, would be effective in carrying out the goal of the invention which is controlling the ignition proclivity of cigarettes. Further, Peterson also states that any manner of film-forming solutions are within the scope of the invention, and suggests that microcrystalline cellulose can be

utilized (col. 4, lines 41-65). Therefore, since Turbak et al discloses a solvent system for cellulose wherein said cellulose is dissolved in a DMAC solvent with lithium chloride, as stated above, it would have been obvious to one having ordinary skill in the art at the time of the invention to utilize the cellulose solvent system of Turbak et al as the film-forming substance to be applied to the cigarette wrapper of Peterson et al since Turbak discloses a natural polymer/non-aqueous solvent system which is suitable for use as a coating. Therefore, the rejections of the above claims over the applied art is deemed appropriate.

Allowable Subject Matter

5. Claims 3, 7-16, 53, 57-66 and 149-150 would be allowable if rewritten to overcome any rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Examiner is convinced by Applicant's assertion that the combined references do not suggest a population of smoking articles having one or more banded regions, with at least one of the banded regions of each smoking article being at a location that is one of random, quasi random and sequentially related within the population.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne A. Walls whose telephone number is (703) 305-0933. The examiner can normally be reached on Mon-Fri, 7AM - 4:30PM (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (703) 308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Dionne A. Walls
December 7, 2002